# Curriculum and Recommended Schedule --- B.S. in METEOROLOGY

## FALL Semester
- **METR 1102** Introduction to Meteorology 3
- **MATH 1241** Calculus I 3
- **CHEM 1251** Principles of Chemistry 3
- **CHEM 1251L** Principles of Chemistry Lab 1
- **UWRT 1103 or 1104** 3
- **LBST 1xxx** Arts and Society Elective 3 16

## First Year
- **MATH 1242** Calculus II 3
- **PHYS 2101** Physics for Science I 3
- **PHYS 2101L** Physics for Science I - Lab 1
- **LBST 2xxx** Liberal Studies Elective 3
- **LBST 2xxx** Liberal Studies Elective 3 16

## SPRING Semester
- **METR 3140** Fundamentals of Meteorology *** 3
- **ESCI 3101** Global Environmental Change 3
- **MATH 2241** Calculus III 3
- **PHYS 2102** Physics for Science II 3
- **PHYS 2102L** Physics for Science II - Lab 1 13

## Second Year
- **METR 3210** Atmospheric Thermodynamics 3
- **METR 4105** Meteorological Computer Apps 3
- **MATH 2171** Differential Equations 3
- **Social Science Elective * 3**
- **Writing (W) Comm Elective 3** 15

## Third Year
- **METR 3245** Synoptic Meteorology 4
- **METR 3220** Physical Meteorology 3
- **STAT 2122** Intro to Prob and Stats 3
- **General Elective 3**
- **FORL 1201 (or proficiency) 4** 17

## Fourth Year
- **METR 4245** Adv Synoptic Meteorology 3
- **METR 4250** Adv Dynamic Meteorology 3
- **Major Elective ** 3
- **General Elective 3**
- **General Elective 4** 16

## Spring Semester Total
- **METR 3250** Dynamic Meteorology 3
- **METR 4205** Climate Dynamics 3
- **Writing (W) Comm Elective (METR 3330) 3**
- **Oral (O) Comm Elective (METR 4650) 1**
- **FORL 1201 (or proficiency) 4** 14

## Fall Semester Total
- **Major Elective ** 3
- **Major Elective ** 3
- **General Elective 3**
- **General Elective 4** 16

## Approved Major Electives - Typical Fall Offerings
- **METR 4110** Atmospheric Instrumentation ** 3
- **METR 4240** Boundary-Layer Meteorology 3
- **METR 4320** Tropical Meteorology 3
- **ESCI 3105** Oceanography 3
- **ESCI 4140** Hydrologic Processes 4
- **ESCI 4170** Fundamentals of Remote Sensing ** 4
- **GEOG 3120** Fundamentals of GIS * 4
- **GEOG 3215** Environmental Planning (W) 3
- **GEOG 4110** GIS for Non-Majors * 3

## Approved Major Electives - Typical Spring Offerings
- **METR 3330** Weather Forecasting (W) 3
- **METR 3340** Weather Communications 3
- **METR 4150** Applied Climatology (W) 3
- **METR 4220** Atmospheric Chemistry 3
- **METR 4350** Mesoscale Meteorology 3
- **ESCI 3205** Water Resources 3
- **ESCI 4155** Fluvial Processes 4
- **ESCI 4222** Watershed Science 3
- **ESCI 4180** Digital Image Processing in Rem Sens 4

### NOTE:
This advising sheet is valid for students who declared as a major in the Fall 2018 term or later.

* One of the following courses: ANTH 1101, ECON 1101, ECON 2101, ECON 2102, GEOG 1105, POLS 1110, or SOCY 1101

*** METR 3140 Fundamentals of Meteorology is also typically offered during Summer Session 1

* Students interested in taking multiple GIS courses must first take either GEOG 3120 or GEOG 4110

** Students interested in employment with the federal government (e.g., National Weather Service) should take either METR 4110 (Atmospheric Instrumentation) or ESCI 4170 (Fundamentals of Remote Sensing)

** See the next page for suggested electives if you are interested in (1) a weather forecasting career , (2) a broadcast meteorology career, (3) an environmental monitoring career, or (4) preparation for graduate studies
Recommendations for Elective Courses

1. NATIONAL WEATHER SERVICE and PRIVATE COMPANIES
   a. ESCI 4140 Hydrologic Processes
   b. ESCI 4170 Fundamentals of Remote Sensing
   c. METR 3330 Weather Forecasting (W)
   d. METR 4110 Atmospheric Instrumentation
   e. METR 4150 Applied Climatology (W)
   f. METR 4240 Boundary Layer Meteorology
   g. METR 4320 Tropical Meteorology
   h. METR 4350 Mesoscale Meteorology

   Using general electives to complete all of the suggested courses is recommended. A formal internship with, or volunteering for, a NWS office is highly recommended to increase employment chances.

2. BROADCAST METEOROLOGY
   a. METR 3330 Weather Forecasting (W)
   b. METR 3340 Weather Communications
   c. METR 4110 Atmospheric Instrumentation
   d. METR 4320 Tropical Meteorology
   e. METR 4350 Mesoscale Meteorology
   f. Additional courses in communication, journalism, writing and/or speech
   g. Additional courses in publishing and/or broadcast media

   Using general electives for communications courses may increase your chances for employment. An internship with a television or radio station is highly recommended to increase employment chances.

3. ENVIRONMENTAL MONITORING
   a. ESCI 3205 Water Resources
   b. ESCI 4140 Hydrologic Processes
   c. ESCI 4170 Fundamentals of Remote Sensing
   d. METR 4220 Atmospheric Chemistry
   e. METR 4240 Boundary Layer Meteorology
   f. METR 4150 Applied Climatology (W)
   g. GEOG 3190 Biogeography
   h. GEOG 4125 Urban Ecology
   i. GEOG 4126 Landscape Ecology

   Using general electives to complete all of the suggested courses is recommended. A formal internship with, or volunteering for, an environmental firm is highly recommended to increase employment chances.

4. GRADUATE STUDIES or RESEARCH
   a. ESCI 4140 Hydrologic Processes
   b. ESCI 4170 Fundamentals of Remote Sensing
   c. METR 3330 Weather Forecasting (W)
   d. METR 4110 Atmospheric Instrumentation
   e. METR 4150 Applied Climatology (W)
   f. METR 4220 Atmospheric Chemistry
   g. METR 4240 Boundary Layer Meteorology
   h. METR 4320 Tropical Meteorology
   i. METR 4350 Mesoscale Meteorology
   j. Additional coursework in earth sciences, geography, geology, mathematics, chemistry, physics, statistics, and/or computer science

   Using general electives to complete as many of the suggested courses as possible is recommended. Participation in a Research Experience for Undergraduates (REU) or any other research-related activity is highly advantageous for acceptance into meteorology or atmospheric science graduate programs.
Bachelors of Science in Meteorology

### Required Departmental Courses

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>METR 1102</td>
<td>Introduction to Meteorology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ESCI 3101</td>
<td>Global Environmental Change</td>
<td>3</td>
<td>METR 1102 or ESCI 1101</td>
</tr>
<tr>
<td>METR 3140</td>
<td>Fundamentals of Meteorology</td>
<td>3</td>
<td>METR 1102</td>
</tr>
<tr>
<td>METR 3210</td>
<td>Atmospheric Thermodynamics</td>
<td>3</td>
<td>METR 3140 with C or better, MATH 1241</td>
</tr>
<tr>
<td>METR 3220</td>
<td>Physical Meteorology</td>
<td>3</td>
<td>METR 3210 with C or better</td>
</tr>
<tr>
<td>METR 3245</td>
<td>Synoptic Meteorology + Lab</td>
<td>4</td>
<td>METR 3210 with C or better</td>
</tr>
<tr>
<td>METR 3250</td>
<td>Dynamic Meteorology</td>
<td>3</td>
<td>METR 3245 with C or better, MATH 1242, PHYS 2101</td>
</tr>
<tr>
<td>METR 4105</td>
<td>Meteorological Computer Applications</td>
<td>3</td>
<td>METR 3140 with C or better, MATH 1241</td>
</tr>
<tr>
<td>METR 4205</td>
<td>Climate Dynamics</td>
<td>3</td>
<td>METR 4105 with C or better, ESCI 3101, METR 3250 (Pre or Co)</td>
</tr>
<tr>
<td>METR 4245</td>
<td>Advanced Synoptic Meteorology</td>
<td>3</td>
<td>METR 3250 with C or better</td>
</tr>
<tr>
<td>METR 4250</td>
<td>Advanced Dynamic Meteorology</td>
<td>3</td>
<td>METR 3250 with C or better, MATH 2171, MATH 2241</td>
</tr>
</tbody>
</table>

### Major Elective Courses (9 total credits - select from list below)

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCI 3105</td>
<td>Oceanography</td>
<td>3</td>
<td>ESCI 1101+L or GEOL 1200+L</td>
</tr>
<tr>
<td>ESCI 3205</td>
<td>Water Resources</td>
<td>3</td>
<td>ESCI 1101+L or GEOL 1200+L</td>
</tr>
<tr>
<td>ESCI 4140</td>
<td>Hydrologic Processes + Lab</td>
<td>4</td>
<td>ESCI 1101+L or GEOL 1200+L</td>
</tr>
<tr>
<td>ESCI 4155</td>
<td>Fluvial Processes + Lab</td>
<td>4</td>
<td>ESCI 1101+L or GEOL 1200+L</td>
</tr>
<tr>
<td>ESCI 4170</td>
<td>Fundamentals of Remote Sensing</td>
<td>4</td>
<td>ESCI 1101+L or GEOL 1200+L</td>
</tr>
<tr>
<td>ESCI 4180</td>
<td>Digital Image Processing in Remote Sensing</td>
<td>4</td>
<td>ESCI 4170</td>
</tr>
<tr>
<td>ESCI 4222</td>
<td>Watershed Science</td>
<td>3</td>
<td>ESCI 4140 or ESCI 4155</td>
</tr>
<tr>
<td>GEOG 3120</td>
<td>Fundamentals of GIS</td>
<td>4</td>
<td>GEOG 1103 or ESCI 2210 (or instructor permission)</td>
</tr>
<tr>
<td>GEOG 3215</td>
<td>Environmental Planning (W)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOG 4110</td>
<td>GIS for Non-Majors</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>METR 3330</td>
<td>Weather Forecasting (W)</td>
<td>3</td>
<td>METR 3245</td>
</tr>
<tr>
<td>METR 3340</td>
<td>Weather Communications</td>
<td>3</td>
<td>METR 3245 (Pre or Co)</td>
</tr>
<tr>
<td>METR 4000</td>
<td>Topics in Meteorology</td>
<td>3</td>
<td></td>
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<tr>
<td>METR 4110</td>
<td>Atmospheric Instrumentation</td>
<td>3</td>
<td>METR 3210</td>
</tr>
<tr>
<td>METR 4150</td>
<td>Applied Climatology (W)</td>
<td>3</td>
<td>METR 3250</td>
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<tr>
<td>METR 4220</td>
<td>Atmospheric Chemistry</td>
<td>3</td>
<td>CHEM 1251</td>
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<tr>
<td>METR 4240</td>
<td>Boundary Layer Meteorology</td>
<td>3</td>
<td>METR 3210</td>
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<tr>
<td>METR 4320</td>
<td>Tropical Meteorology</td>
<td>3</td>
<td>METR 3250</td>
</tr>
<tr>
<td>METR 4350</td>
<td>Meso-scale Meteorology</td>
<td>3</td>
<td>METR 3250 (Pre or Co)</td>
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<tr>
<td>METR 4400</td>
<td>Internship in Meteorology</td>
<td>3</td>
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<tr>
<td>METR 4800</td>
<td>Individual Study in Meteorology</td>
<td>3</td>
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### Required Extra-Departmental Courses

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1251</td>
<td>Principles of Chemistry + Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 1241</td>
<td>Calculus I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 1242</td>
<td>Calculus II</td>
<td>3</td>
<td>MATH 1241</td>
</tr>
<tr>
<td>MATH 2171</td>
<td>Differential Equations</td>
<td>3</td>
<td>MATH 1242</td>
</tr>
<tr>
<td>MATH 2241</td>
<td>Calculus III</td>
<td>3</td>
<td>MATH 1242</td>
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<tr>
<td>PHYS 2101</td>
<td>Physics for Science I + Lab</td>
<td>4</td>
<td>MATH 1241</td>
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<tr>
<td>PHYS 2102</td>
<td>Physics for Science II + Lab</td>
<td>4</td>
<td>PHYS 2101, MATH 1242</td>
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<tr>
<td>STAT 2122</td>
<td>Intro to Probability and Statistics</td>
<td>3</td>
<td>MATH 1242</td>
</tr>
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</table>
# UNC Charlotte General Education Program
## Advising Worksheet

### I. Development of Fundamental Skills of Inquiry

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Courses Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing and Inquiry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Either UWRT 1103 or UWRT 1104</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>(or other transfer credit for a UWRT course)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics and logical reasoning</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 1xxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics and logical reasoning</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>One of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 1xxx, STAT 1xxx, or PHIL 2105</td>
<td></td>
<td></td>
</tr>
</tbody>
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### II. Inquiry in the Sciences

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Courses Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two of the following and one must be with a Lab:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANTH 2141</td>
<td>4</td>
<td>(with lab)</td>
</tr>
<tr>
<td>BINF 1101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 1110, 1115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1111, 1112, 1200, 1203, 1204, 1251, 1252</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESCRI 1101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG 1103</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG 1200, 1210</td>
<td></td>
<td></td>
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<tr>
<td>KNES 2168</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITIS 1350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1100, 1101, 1102, 1130, 1201, 1202, 1203, 2101, 2102</td>
<td>3-4</td>
<td>(with or without lab)</td>
</tr>
<tr>
<td>PSYC 1101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One of the following:</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ANTH 1101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 1101, 2101, 2102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG 1105</td>
<td></td>
<td></td>
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<tr>
<td>POLS 1110</td>
<td></td>
<td></td>
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<tr>
<td>SOCY 1101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### III. Themes of Liberal Education for Private and Public Life

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Courses Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE LBST at the 1000-level (Arts and Society). Choose one from…</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LBST 1101, 1102, 1103, 1104, 1105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THREE LBST at the 2000-level. Choose three from…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBST 2101 (Western Culture and Historical Awareness)</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>LBST 2102 (Global Understanding)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBST 2211, 2212, 2213, 2214, or 2215 (Ethical and Cultural Critique)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBST 2301 (Critical Thinking and Communication)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(MOST students will need to choose LBST 2301 to meet the CTC requirement, see below)</td>
<td></td>
<td></td>
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### IV. Critical Thinking and Communication

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Courses Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE course with the CTC attribute. Either</td>
<td>0-3</td>
<td></td>
</tr>
<tr>
<td>Take LBST 2301 as one of your three 2000-LBST courses, OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfy the CTC requirement with transfer credit</td>
<td></td>
<td></td>
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### V. Advanced Communication Skills

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Courses Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing in the discipline course (in the Major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Three semester hours (typically one course) designated as Writing Intensive (‘W’). Must be in the major.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing in the discipline course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Three semester hours (typically one course) designated as Writing Intensive (‘W’). May be in the major.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral Communication</td>
<td>0-3</td>
<td></td>
</tr>
<tr>
<td>One course with the ‘O’ designation (Courses can double count for O and W)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Foreign Language requirements are set by the College and Program of your academic major(s).